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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,750	10/20/2000	Junji Sato	01165.0798	3787

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EXAMINER
GONZALEZ, JULIO C

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 01/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/673,750	SATO ET AL.
	Examiner	Art Unit
	Julio C. Gonzalez	2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 November 2001* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,14,15 and 17-28* is/are rejected.

7)☒ Claim(s) *12,13 and 16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *7* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 15, 17, 18, 20, 22, 23, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al in view of Marioni.

Yoshida et al discloses a rotor for an electric motor having a magnet 5, a shaft 8 fixed concentrically to the magnet 5 wherein the shaft has a first portion in axial interengagement inside a through hole and is shorter than axial length of through hole and a second portion that is not in engagement with an inside surface or through hole (see figure 1).

However, Yoshida does not disclose reinforcement means inside through hole.

On the other hand, Marioni discloses for the purpose of increasing injection pressure and reduce cracking of the magnets, reinforcing means 12, which comprises a epoxy resin (column 2, lines 51, 52) that is engage with the magnets 10 and shaft 11 (see figure 7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a rotor for an electric motor as disclosed by Yoshida et al and to modify the invention by using epoxy resin as reinforced means for the purpose of

increasing injection pressure and reduce cracking of the magnets as disclosed by Marioni.

3. Claims 3, 4, 11, 19, 21 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al in view of Marioni and Miyahara et al.

Yoshida et al discloses a rotor for an electric motor having a magnet 5, a shaft 8 fixed concentrically to the magnet 5 wherein the shaft has a first portion in axial interengagement inside a through hole and is shorter than axial length of through hole and a second portion that is not in engagement with an inside surface or through hole (see figure 1).

However, Yoshida does not disclose reinforcement means inside through hole.

On the other hand, Marioni discloses for the purpose of increasing injection pressure and reduce cracking of the magnets, reinforcing means 12, which comprises a epoxy resin (column 2, lines 51, 52) that is engage with the magnets 10 and shaft 11 (see figure 7).

However, neither Yoshida nor Marioni disclose a metal plating.

On the other hand, Miyahara et al discloses for the purpose of improving the reliability of a sensor and effectively detecting the position of the shaft, an electroless metal coat plate 19 (column 2, lines 63, 64) over the magnet 12 (see figures 1B, 5)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a rotor for an electric motor as disclosed by Yoshida et al and to modify the invention by using epoxy resin as reinforced means for the purpose of

increasing injection pressure and reduce cracking of the magnets as disclosed by Marioni and to use an electroless plate for the purpose of improving the reliability of a sensor and effectively detecting the position of the shaft as disclosed by Miyahara et al.

4. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al in view of Marioni and Miyahara et al and Tagaya.

Yoshida et al discloses a rotor for an electric motor having a magnet 5, a shaft 8 fixed concentrically to the magnet 5 wherein the shaft has a first portion in axial interengagement inside a through hole and is shorter than axial length of through hole and a second portion that is not in engagement with an inside surface or through hole (see figure 1).

However, Yoshida does not disclose reinforcement means inside through hole.

On the other hand, Marioni discloses for the purpose of increasing injection pressure and reduce cracking of the magnets, reinforcing means 12, which comprises a epoxy resin (column 2, lines 51, 52) that is engage with the magnets 10 and shaft 11 (see figure 7).

However, neither Yoshida nor Marioni disclose a metal plating.

On the other hand, Miyahara et al discloses for the purpose of improving the reliability of a sensor and effectively detecting the position of the shaft, an electroless metal coat plate 19 (column 2, lines 63, 64) over the magnet 12 (see figures 1B, 5).

However, neither Yoshida nor Marioni nor Miyahara disclose the thickness of the plate layer and other protective layers.

On the other hand, Tagaya discloses for the purpose of improving the corrosion resistance on rare earth magnets, an electroless plate layer and an electroplating top layer protective coatings (column 4, lines 59-68) and specific thickness for the electroless layer, electroplating layer and metal plating (column 4, lines 39, 40 & column 5, lines 3-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a rotor for an electric motor as disclosed by Yoshida et al and to modify the invention by using epoxy resin as reinforced means for the purpose of increasing injection pressure and reduce cracking of the magnets as disclosed by Marioni and to use an electroless plate for the purpose of improving the reliability of a sensor and effectively detecting the position of the shaft as disclosed by Miyahara et al and to use electroless and electroplating layers for the purpose of improving the corrosion resistance on rare earth magnets as disclosed by Tagaya.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al in view of Marioni and Miyahara et al and Zolla.

Yoshida et al discloses a rotor for an electric motor having a magnet 5, a shaft 8 fixed concentrically to the magnet 5 wherein the shaft has a first portion in axial interengagement inside a through hole and is shorter than axial length of through hole and a second portion that is not in engagement with an inside surface or through hole (see figure 1).

However, Yoshida does not disclose reinforcement means inside through hole.

On the other hand, Marioni discloses for the purpose of increasing injection pressure and reduce cracking of the magnets, reinforcing means 12, which comprises a epoxy resin (column 2, lines 51, 52) that is engage with the magnets 10 and shaft 11 (see figure 7).

However, neither Yoshida nor Marioni disclose a metal plating.

On the other hand, Miyahara et al discloses for the purpose of improving the reliability of a sensor and effectively detecting the position of the shaft, an electroless metal coat plate 19 (column 2, lines 63, 64) over the magnet 12 (see figures 1B, 5). However, neither Yoshida nor Marioni nor Miyahara disclose the type of electroless plating.

On the other hand Zolla discloses for the purpose of increasing the resistance to corrosion of an easily corroded metallic support that the electroless plating can be made of Ni-P, Ni-P-W, NI-B, Ni material (column 2, line 16 & table on column 6).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a rotor for an electric motor as disclosed by Yoshida et al and to modify the invention by using epoxy resin as reinforced means for the purpose of increasing injection pressure and reduce cracking of the magnets as disclosed by Marioni and to use an electroless plate for the purpose of improving the reliability of a sensor and effectively detecting the position of the shaft as disclosed by Miyahara et al and to use specific types of electroless plating for the purpose of increasing the resistance to corrosion of an easily corroded metallic support as disclosed by Zolla.

6. Claims 24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al in view of Marioni and Oda et al.

Yoshida et al discloses a rotor for an electric motor having a magnet 5, a shaft 8 fixed concentrically to the magnet 5 wherein the shaft has a first portion in axial interengagement inside a through hole and is shorter than axial length of through hole and a second portion that is not in engagement with an inside surface or through hole (see figure 1).

However, Yoshida does not disclose reinforcement means inside through hole.

On the other hand, Marioni discloses for the purpose of increasing injection pressure and reduce cracking of the magnets, reinforcing means 12, which comprises a epoxy resin (column 2, lines 51, 52) that is engage with the magnets 10 and shaft 11 (see figure 7).

However, neither Yoshida nor Marioni disclose a vacuum-impregnated process.

On the other hand, Oda et al discloses for the purpose of preventing unbalanced during rotation of the shaft, magnet segments filled with epoxy resin adhesive by vacuum impregnation method (column 7, lines 21-24 & see figure 6).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a rotor for an electric motor as disclosed by Yoshida et al and to modify the invention by using epoxy resin as reinforced means for the purpose of increasing injection pressure and reduce cracking of the magnets as disclosed by Marioni and to use vacuum-impregnation methods for the purpose of preventing unbalanced during rotation of the shaft as disclosed by Oda et al.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al in view of Marioni and Miyahara et al and Oda et al.

Yoshida et al discloses a rotor for an electric motor having a magnet 5, a shaft 8 fixed concentrically to the magnet 5 wherein the shaft has a first portion in axial interengagement inside a through hole and is shorter than axial length of through hole and a second portion that is not in engagement with an inside surface or through hole (see figure 1).

However, Yoshida does not disclose reinforcement means inside through hole.

On the other hand, Marioni discloses for the purpose of increasing injection pressure and reduce cracking of the magnets, reinforcing means 12, which comprises a epoxy resin (column 2, lines 51, 52) that is engage with the magnets 10 and shaft 11 (see figure 7).

However, neither Yoshida nor Marioni disclose a metal plating.

On the other hand, Miyahara et al discloses for the purpose of improving the reliability of a sensor and effectively detecting the position of the shaft, an electroless metal coat plate 19 (column 2, lines 63, 64) over the magnet 12 (see figures 1B, 5).

However, neither Yoshida nor Marioni nor Miyahara disclose a vacuum impregnation method.

On the other hand, Oda et al discloses for the purpose of preventing unbalanced during rotation of the shaft, magnet segments filled with epoxy resin adhesive by vacuum impregnation method (column 7, lines 21-24 & see figure 6).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a rotor for an electric motor as disclosed by Yoshida et al and to modify the invention by using epoxy resin as reinforced means for the purpose of increasing injection pressure and reduce cracking of the magnets as disclosed by Marioni and to use an electroless plate for the purpose of improving the reliability of a sensor and effectively detecting the position of the shaft as disclosed by Miyahara et al and to use a vacuum-impregnated process for the purpose of preventing unbalanced during rotation of the shaft as disclosed by Oda et al.

Allowable Subject Matter

8. Claims 12, 13 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jcg

January 15, 2002